AMENDMENTS TO THE CLAIMS

1. (Previously Presented) An optical system comprising

a light source for emission of a first light beam

a first beamsplitter having a dielectric coating, the first beamsplitter transmitting/reflecting a secondary output light beam in response to said first light beam being incident upon said beamsplitter, and further transmitting/reflecting a primary output light beam in response to said first light beam being incident upon said beamsplitter, the power of the secondary output light beam being a substantially fixed percentage of the power of the primary output light beam, wherein the substantially fixed percentage of the secondary output light beam is substantially invariant to wavelength variations of the first light beam within a predetermined wavelength range,

a detector measuring the power of the secondary output light beam, and providing on the basis of the measured power a control signal to the light source, so that parameters of the first light source are adjusted in such a way that the output power of the primary output light beam is kept substantially constant.

2. (Canceled)

3. (Original) A system according to claim 1, wherein the transmittance and/or reflection spectra of the dielectric coating

of the beamsplitter is/are substantially invariant to wavelength changes of the first light beam in a predetermined wavelength range.

4. (Currently Amended) A system according to claim [[2]] <u>1</u>, wherein the predetermined wavelength range is between approximately 780 nm and approximately 830 nm.

5. (Currently Amended) A system according to claim [[2]] <u>1</u>, wherein the predetermined wavelength range is between approximately 620 nm and approximately 650 nm.

6. (Currently Amended) A system according to claim [[2]] <u>1</u>, wherein the predetermined wavelength range is between approximately 910 nm and approximately 1100 nm.

7. (Currently Amended) A system according to claim [[2]] <u>1</u>, wherein the predetermined wavelength range is between approximately 1450 nm and approximately 1550 nm.

8. (Currently Amended) A system according to claim [[2]] <u>1</u>, wherein the predetermined wavelength range is between approximately 1600 nm and approximately 1900 nm.

9. (Currently Amended) A system according to claim [[2]] 1, wherein the predetermined wavelength range is between approximately 520 nm and approximately 585 nm.

10. (Original) A system according to claim 1, wherein the beamsplitter, for an incident light beam having a wavelength within a predetermined wavelength range, induces a variation in the power of the transmitted/reflected secondary light beam being within +/- 10 % of the power of the transmitted/reflected secondary light beam at a given wavelength within the predetermined wavelength range so as to provide a variation in the substantially fixed percentage of the primary output light beam being within +/-10% of the substantially fixed percentage at the given wavelength.

11. (Original) A system according to claim 1, wherein the beamsplitter, for an incident light beam having a wavelength within a predetermined wavelength range, induces a variation in the power of the transmitted/reflected secondary light beam being within +/- 10 % of the average power of the transmitted/reflected secondary light beam in the given wavelength range so as to provide a variation in the substantially fixed percentage of the primary output light beam being within +/-10% of the average power of the transmitted/reflected secondary output light beam in the predetermined wavelength range.

12. (Original) A system according to claim 1, wherein the beamsplitter, for an incident light beam having a wavelength within a predetermined wavelength range, induces a variation in the power of the transmitted/reflected secondary light beam being within +/- 5 % of the power of the transmitted/reflected secondary light beam at a given wavelength within the predetermined wavelength range so as to provide a variation in the substantially fixed percentage of the primary output light beam being within +/- 5 % of the substantially fixed percentage at the given wavelength.

13. (Original) A system according to claim 1, wherein the beamsplitter, for an incident light beam having a wavelength within a predetermined wavelength range, induces a variation in the power of the transmitted/reflected secondary light beam being within +/- 5 % of the average power of the transmitted/reflected secondary light beam in the given wavelength range so as to provide a variation in the substantially fixed percentage of the primary output light beam being within +/- 5 % of the average power of the transmitted/reflected secondary output light beam in the predetermined wavelength range.

14. (Original) A system according to claim 1, wherein a output power of the primary output light beam is kept within +/- 20% of a predetermined output power.

15. (Previously Presented) A system according to claim 1, wherein a output power of the primary output light beam is kept within +/-10 % of a predetermined output power.

16. (Original) A system according to claim 1, wherein the transmittance and/or reflection spectra of the dielectric coating of the beamsplitter is/are substantially invariant to temperature changes of the dielectric coating.

17. (Original) A system according to claim 1, wherein the substantially fixed percentage is less than 0.5%.

18. (Original) A system according to claim 1, wherein the substantially fixed percentage is less than 0.1%.

19. (Original) A system according to claim 1, wherein the light source comprises a solid state laser light source.

20. (Original) A system according to claim 1, wherein the light source comprises a wavelength tuneable laser light source.

21. (Original) A system according to claim 1, wherein the dielectric coating comprises a number of alternating layers having different indices of refraction.

22. (Original) A system according to claim 21, wherein each of the alternating layers has an index of refraction being significant of said layer.

23. (Original) A system according to claim 21, wherein the indices of refraction of the alternating layers being within a range from approximately 1.2 to approximately 2.5.

24. (Original) A system according to claim 21, wherein the dielectric coating comprises at least a first layer having an index of refraction being within a range from approximately 1.2 to approximately 1.6, and at least a second layer having an index of refraction being within a range from approximately 2.0 to approximately 2.5.

25. (Original) A system according to claim 1, wherein the dielectric coating comprises alternating layers of titanium-dioxide (TiO_2) and quartz (SiO_2).

26. (Original) A system according to claim 1, wherein the water content of the dielectric coating is minimized.

27. (Previously Presented) A method of controlling the output of an optical system, the method comprising the steps of:

- emitting, by means of a light source, a first light beam being incident upon a beamsplitter having a dielectric coating,
- reflecting/transmitting a primary output light beam by means of said beamsplitter in response to the first light beam being incident thereupon,
- transmitting/reflecting a secondary output light beam by means of said beamsplitter in response to the first light beam being incident thereupon, and in such a way that the power of the secondary output light beam is a substantially fixed percentage of the power of the primary output light beam, the substantially fixed percentage being substantially invariant to wavelength variations of the first light beam within a predetermined wavelength range,
- measuring the power of the secondary output light beam,
- providing, on the basis of the measured power, a control signal to the light source, and
- adjusting parameters of the first light source so that the first light beam is emitted in such a way that the output power of the primary output light beam is kept substantially constant.

28. (Canceled)

29. (Original) A method according to claim 27, wherein the transmittance and/or reflection spectra of the dielectric coating of the beamsplitter is/are substantially invariant to wavelength

changes of the first light beam within a predetermined wavelength range.

30. (Previously Presented) A method according to claim 27, wherein the predetermined wavelength range is between approximately 780 nm and approximately 830 nm.

31. (Original) A method according to claim 27, wherein the beamsplitter, for an incident light beam having a wavelength within a predetermined wavelength range, is adapted to induce a variation in the power of the transmitted/reflected secondary light beam being within +/-10 % of the power of the transmitted/reflected secondary light beam at a given wavelength within the predetermined wavelength range so as to provide a variation in the substantially fixed percentage of the primary output light beam being within +/-10% of the substantially fixed percentage at the given wavelength.

32. (Original) A method according to claim 27, wherein the beamsplitter, for an incident light beam having a wavelength within a predetermined wavelength range, is adapted to induce a variation in the power of the transmitted/reflected secondary light beam being within +/-10 % of the average power of the transmitted/reflected secondary light beam in the given wavelength range so as to provide a variation in the substantially fixed

percentage of the primary output light beam being within +/-10% of the average power of the transmitted/reflected secondary output light beam in the predetermined wavelength range.

33. (Original) A method according to claim 27, wherein the beamsplitter, for an incident light beam having a wavelength within a predetermined wavelength range, is adapted to induce a variation in the power of the transmitted/reflected secondary light beam being within +/- 5 % of the power of the transmitted/reflected secondary light beam at a given wavelength within the predetermined wavelength range so as to provide a variation in the substantially fixed percentage of the primary output light beam being within +/- 5 % of the substantially fixed percentage at the given wavelength.

34. (Original) A method according to claim 27, wherein the beamsplitter, for an incident light beam having a wavelength within a predetermined wavelength range, is adapted to induce a variation in the power of the transmitted/reflected secondary light beam being within +/- 5 % of the average power of the transmitted/reflected secondary light beam in the given wavelength range so as to provide a variation in the substantially fixed percentage of the primary output light beam being within +/- 5 % of the average power of the transmitted/reflected secondary output light beam in the predetermined wavelength range.

35. (Original) A method according to claim 27, wherein the output power of the primary output light beam is kept within +/- 20% of a predetermined output power.

36. (Original) A method according to claim 27, wherein the output power of the primary output light beam is kept within +/-10 % of the predetermined output power.

37. (Original) A method according to claim 27, wherein the transmittance and/or reflection spectra of the dielectric coating of the beamsplitter is/are substantially invariant to temperature changes of the dielectric coating.

38. (Original) A method according to claim 27, wherein the substantially fixed percentage is equal to or less than 0.5%.

39. (Original) A method according to claim 27, wherein the substantially fixed percentage is equal to or less than 0.1%.

40. (Original) A method according to claim 27, wherein the dielectric coating comprises alternating layers of titanium-dioxide (TiO_2) and quartz (SiO_2).

41. (Original) A method according to claim 27, wherein the water content of the dielectric coating is minimized.